

ePortfolio Application Profile for Europass CV

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Abstract. While the Cedefop has published a model for a European CV (as part of the Europass initiative) this model is not yet endorsed by the industry and the learning community. To encourage the take-up and the endorsement of the Europass CV, the Cedefop has proposed a XML Schema and an online tool. These facilitate the implementation and use of this model. But this model is yet incomplete, especially in relation to the annexes, additional information and reflections. This paper describes the ongoing work of the TELCERT project, building an application profile for the Europass CV that can be used with ePortfolio solutions and promoted in the Europortfolio community.

1 Introduction

Computer understandable CV is one of the challenges to achieve the Lisbon 2010 objectives. The European Commission has mandated Cedefop to build a transparency framework for qualifications and competences: this is the Europass initiative [1]. Europass documents are

- Europass CV
- Europass Language Portfolio
- Europass Diploma Supplement (EDS)
- Europass Certificate Supplement (CDS)

After having initially designed a human readable information model, last year Cedefop proposed a new online tool developed internally to create Europass CVs using a machine readable binding (based on XML Schema). Compared with the initial paper version of Europass CV, this implementation suffers from gaps in the binding. For example, it is possible to add additional information or annexes to a Europass CV but there is no clear possibility to do this using the Cedefop Schema Binding. This implies to use a specific online dedicated tool for this.

In the perspective of using ePortfolio systems to manage personal data, it might be better to be able to export parts of the user data in a package that would be an application profile of Europass CV. This should be done using existing specifications or *de facto* standards such as IMS LIP [2] and IMS ePortfolio [3] or/and HR-XML

Resume [4]. Additional benefits to this approach is that it would be possible, using IMS ePortfolio specifications, to use discrete parts of learner information (portfolio-parts) for several objectives (for example, sharing the name of the owner in both his/her Europass CV and his/her Europass Language Passport); it would also be possible to include multimedia files (text, images, videos...) in the zip package that the user would like to add to his CV, as annexes or additional information. Similarly, it would be possible to use the 'Reflexion' element of ePortfolio specifications to reflect on the CV in order to establish communication channel between a candidate and a human resource manager. 'Relationships' can be established between different portfolio-parts in order to add semantics information. That would facilitate automatic computations, such as the dynamic transformation of ePortfolio according to the different perspectives and needs of a community. For example it would be possible to build two application profiles of the Europass CV: one for the eLearning community using IMS LIP specifications and the other for the industry and human resources using HR-XML Resume specifications.

To describe the process of the Europass CV application profiling, this paper will continue with an overview of the ePortfolio Europass application profile, following guidelines as defined by IMS [5] and CEN/ISSS WS LT [6]. Then in section 3, we will explain how relationships and external vocabulary can be used to add new semantics information in order to facilitate the reuse of the information stored in the different instances of this application profile. Finally, section 4 will present information related to further developments, linking this work on application profiling to another using HR-XML specifications.

2 Building an ePortfolio Europass CV Application Profile

First of all it is important to study all required elements regarding the base specifications (IMS LIP) to match Europass CV structure. We have done so by following the proposal from the CEN/ISSS WS LT CWA [7]; this mapping is presented in figure 1 below.

No	Name in Europass CV	IMS LIP element
1	Personal information	<identification>
1.1	Surname(s) / First name(s)	<identification><name><partname>
1.2	Address(es)	<identification><address>
1.3	Telephone(s)	<identification><contactinfo>
1.4	Fax(es)	<identification><contactinfo>
1.5	E-mail(s)	<identification><contactinfo>
1.6	Nationality(-ies)	<identification><demographics>
1.7	Date of birth	<identification><demographics>
1.8	Gender	<identification><demographics>
2	Desired employment / Occupational field	<qgab>
2.1	Description	<qgab><description>
3	Work experience	<activity> & <affiliation> & <relationship>
3.1	Dates	<activity><date>
3.2	Occupation or position held	<affiliation><role><description>
3.3	Main activities and responsibilities	<activity><definition><description>
3.4	Name and address of employer	<affiliation><organization><description>
3.5	Type of business or sector	<affiliation><classification>
4	Education and training	<qcb>
4.1	Dates	<qcb><date>
4.2	Title of qualification awarded	<qcb><title>
4.3	Principal subjects / occupational skills covered	<qcb><description> ³
4.4	Name and type of organization providing education and training	<qcb><organization><description>
4.5	Level in national or international classification	<qcb><level><text>
5	Personal skills and Competencies (language part)	TO INCLUDE LATER (extensions needed, maybe CEDEFOP Europass Language Portfolio Schema)
5.1	Mother tongue(s)	TO INCLUDE LATER
5.2	Other language(s)	TO INCLUDE LATER
6	Personal skills and Competencies (others parts)	<competency> & <qcb>
6.1	Social skills and competencies	<competency>
6.2	Organisational skills and competencies	<competency>
6.3	Technical skills and competencies	<competency>
6.4	Computer skills and competencies	<competency>
6.5	Artistic skills and competencies	<competency>
6.6	Other skills and competencies	<competency>
6.7	Driving licence(s)	<qcb>
7	Additional information	<reflection>
7.1	Description	<reflection><description>
8	Annexes	<reflection>
8.1	Description	<reflection><description>

Figure 1. Mapping between IMS LIP and Europass CV

Due to a deprecated element in IMS LIP (Accessibility) it has not been possible to use this deprecated element as proposed in the CEN CWA to map the Europass CV Language competencies. This point may need additional work.

To allow the inclusion of external multimedia document in additional information and annexes the new 'Reflexion' element from IMS ePortfolio specification was used. So it will be possible to reference an external document using this element in conjunction with a "dedicated file" section of the associated "resource" in the IMS Manifest.

Here is an example of this kind of structure.

In the "PortfolioParts" section of the manifest:

```
<item identifier = "ITEM-ADDINFO"
  identifierref = "RES-REFLEX1">
  <title>Reflexion</title>
</item>
```

In the "Resources" section of the manifest:

```
<resource identifier = "RES-REFLEX1"
  type = "imsep-Reflexion" href = "Reflexion.xml">
  <file href = "Reflexion.xml"/>
  <file href = "mydiploma.pdf"/>
</resource>
```

And the associated Reflexion.xml instance:

```
<?xml version="1.0" encoding="UTF-8"?>
<reflexion ...">
  <lip:typename>
    <lip:tysource sourcetype="standard">
http://www.eife-l.org/xsd/cv/VDEXEuropassCV.xml
    </lip:tysource>
    <lip:tyvalue>EuropassCV60</lip:tyvalue>
  </lip:typename>
  <lip:comment>Europass CV: Add info</lip:comment>
  <lip:description>
    <lip:short xml:lang="en">my Diploma</lip:short>
    <lip:full>
      <lip:media mediamode = "Text" mimetype = ""
        contentreftype = "uri">
        mydiploma.pdf
      </lip:media>
    </lip:full>
  </lip:description>
</reflexion>
```

3 Establishing Relations between portfolio parts

3.1 Relations between two parts of a simple e-portfolio

In this Europass CV Application Profile, it is proposed to use the IMS LIP activity element with an Affiliation element to model the Work Experience. As these two elements are in different portfolio-parts of the manifest, it is important to use a *relationship section* in the portfolio manifest with a *relationship element* describing clearly their mutual relation.

Here is an example of such a manifest file:

```
<?xml version="1.0" encoding="UTF-8"?>
<manifest...>
  <organizations default="RLD-73574572-orgal">
    <organization identifier = "RLD-73574572-orgal">
      <title>cv388_Europass_CV_Teacher-Ireland</title>
      <item identifier = "ITEM-PORTFOLIOPARTS-ROOT">
        <title>PortfolioParts</title>
        ...
        <item identifier = "ITEM-456DA14D"
          identifierref = "RES-PART3">
          <title>LIP-Activity</title>
        </item>
        <item identifier = "ITEM-A44EA585"
          identifierref = "RES-PART4">
          <title>LIP-Affiliation</title>
        </item>
        ...
      </item>
      <item identifier = "ITEM-RELATIONSHIPS-ROOT">
        <title>Relationships</title>
        <item identifier = "ITEM-577DF155"
          identifierref = "RES-REL1">
          <title>LIP-Relationship</title>
        </item>
      </item>
    </organization>
  </organizations>
  <resources>
    ...
    <resource identifier = "RES-PART3"
      type="imslip-Activity" href="LIP-Activity.xml">
      <file href="LIP-Activity.xml" />
    </resource>
    <resource identifier = "RES-PART4"
      type="imslip-Affiliation" href="LIP-Affiliation.xml">
      <file href="LIP-Affiliation.xml" />
    </resource>
  </resources>
</manifest>
```

```

    <resource identifier="RES-REL1"
type="imslip-Relationship" href="LIP-Relationship.xml">
    <file href="LIP-Relationship.xml" />
    </resource>
    ...
  </resources>
</manifest>

```

The relationship description itself is declared in the xml files and used the indexid reference included in the activity.xml and affiliation.xml files.

Here is an example of such a relationship xml file:

```

<?xml version="1.0" encoding="UTF-8"?>
<learnerinformation ...>
  <relationship>
    <tuple>
      <tuplesource>
        <indexid>work1</indexid></tuplesource>
      <tuplerelation>
        <typename>
          <tyvalue>ispartof</tyvalue>
        </typename>
      </tuplerelation>
      <tupledest>
        <indexid>affiliation1</indexid>
      </tupledest>
    </tuple>
  </relationship>
</learnerinformation>

```

3.2 Relations to use the same portfolio-parts in an enhanced Europass e-portfolio

This section illustrates how to use the relationships and views parts in a manifest, in order to declare that some of the portfolio-parts must be used to illustrate both the Europass CV and the Europass Language Passport.

The Views part in the manifest can be used with two main items, one for the Europass CV view and the other for the Europass Language Passport view. Each of these main items will include sub-items using reference to existing resources associated with portfolio-parts.

Here is an XML example of such a manifest:

```

...
<organization identifier = "ORG-4433B3DD">
  <title>MyEuropassPortfolio</title>
  <item identifier = "ITEM-VIEWS-ROOT">
    <title>Views</title>
    <item identifier = "ITEM-VIEW-001">
      <title>Europass CurriculumVitae</title>
      <item identifier = "ITEM-VIEW-011"

```

```

        identifierref = "RES-PORTPART-001">
    <title>Personal Identification</title>
</item>
<item identifier = "ITEM-VIEW-012"
    identifierref = "RES-PORTPART-002">
    <title>Carrer Goal</title>
</item>
...
</item>
<item identifier="ITEM-VIEW-002">
    <title>Europass Language Passport</title>
    <item identifier = "ITEM-VIEW-021"
        identifierref = "RES-PORTPART-001">
        <title>Personal Identification</title>
    </item>
    <item identifier = "ITEM-VIEW-022"
        identifierref = "RES-PORTPART-003">
        <title>English Language Assessment</title>
    </item>
...
</item>
<item identifier = "ITEM-PORTFOLIOPARTS-ROOT">
    <title>PortfolioParts</title>
    <item identifier = "ITEM-PART-001"
        identifierref = "RES-PORTPART-001">
        <title>Identification</title>
    </item>
    <item identifier = "ITEM-PART-002"
        identifierref = "RES-PORTPART-002">
        <title>Goal</title>
    </item>
...

```

The same approach could be use to include also other Europass models (Diploma Supplement, Certificate Supplement, Mobility).

3.3 Transforming portfolio-parts for each portfolio views in an enhanced Europass e-portfolio

In the previous section 3.2 we explained that common elements (i.e. identification) could be used with several portfolio views. This might require some additional changes. For example an ‘identification’ element in a Europass CV includes the name, date of birth, address, telephone number and other fields but the ‘identification’ element in a Europass Language Passport only includes the name and the date of birth. So it would be possible to use in conjunction with a Portfolio Language Passport ‘View’ a dedicated ‘Presentation’ portfolio item which could reference XSL transformation files or other files related to presentation (like CSS files).

Here is the related information in a manifest:

```

...
<item identifier = "ITEM-PRESENTATIONS-ROOT">
    <title>Presentations</title>

```

```

        <item identifier = "ITEM-PRESENTATION-001"
              identifierref = "RES-PRESENT-001">
          <title>Europass Language Passport</title>
        </item>
      </item>
    ...
  <resources>
    <resource identifier = "RES-PRESENT-001"
              type = "PresentationStyle">
      <file href = "identificationTransformation.xsl"/>
    </resource>
  ...

```

4 Future Work

The same work using TELCERT profiling [8] and testing tools [9] will be done with HR-XML Resume specifications. The HR-XML Resume specifications are based on several simpler schemas (CPO) which can be compared to IMS LIP main sub-elements. Therefore it should be possible to consider each of them as portfolio-parts. Using the same ‘Relationships’ and ‘Views’ sections from the IMS e-portfolio specifications with a specific external vocabulary it might be possible to build a new application profile to construct portfolio packages of Europass data using HR-XML specifications as ‘PortfolioParts’.

After doing this, it would be possible to use XSL transformation file to translate a Europass Portfolio Package using IMS LIP in a Europass Portfolio Package using HR-XML Resume and vice-versa. This would greatly increase the interoperability of Europass CV. The TELCERT Test System could be used in this perspective to build a European ePortfolio Europass CV Interoperability Certification Programme. The feasibility study for this programme will be included in European-wide ePortfolio and Europass Readiness study [10].

5 References

- [1] Cedefop Europass website: <http://europass.cedefop.eu.int/>
- [2] IMS ePortfolio specifications: <http://www.imsglobal.org/ep/index.html>
- [3] IMS LIP specifications: <http://www.imsglobal.org/profiles/index.html>
- [4] HR-XML Resume specifications:
http://ns.hr-xml.org/2_3/HR-XML-2_3/SEP/Resume.html
- [5] IMS Application Profiling guidelines: <http://www.imsglobal.org/ap/>
- [6] CEN ISSS WS LT CWA Application Profiling:
<http://ariadne.cs.kuleuven.ac.be/wiki/AppProf/Wiki?AppProf>
- [7] CEN ISSS WS LT CWA 14926 “Guidelines for the production of learner information standards and specifications”:
<ftp://cenftp1.cenorm.be/PUBLIC/CWAs/e-Europe/WS-LT/CWA14926-00-2004-Mar.pdf>
- [8] TELCERT SCHEMAPROF: <http://iwm.uni-koblenz.de/schemaprof/index.html>

[9] TELCERT TEST SYSTEM: <http://www.opengroup.org/telcert/>

[10] ePortfolio and Europass Readiness Study: <http://www.eife-l.org/activities/ePreadiness/>

TELCERT ePortfolio Europass CV Application Profile public release:

<http://www.eife-l.org/portfolio/interop/europasscv>