

## 1. Remove the annotation element from all LocatableType children.

The string value for this element is a duplication of the data-name on every DvAnyType child. The RDF link can be added as an attribute directly to the data-name.

Examples of this can be seen in the migration, from 2.4.0 to 2.4.1 of the CCDs produced by Flavio L. Seixas for his PhD project. The CCDs were assigned a new UUID. The only other changes are to move the **rdf:resource=** attribute to the data-name element on each datatype and then remove the annotations element from the CareEntryType, ElementType and ClusterType.

## 2. Redesigned the DvTemporalType for cleaner implementation.

In previous releases the knowledge modeler was constrained with selecting one and only one child of DvTemporal to express a temporal constraint. This creates problems when only partial information is available to the application user.

We now defined the DvTemporalType as a concrete type vs. an abstract. We added an element to this complexType for each of the XML Schema temporal types. This produced a much simpler and more versatile implementation. Setting maxOccurs=0 is a valid option for any element and means it is *prohibited* from appearing in the instance data. This now gives us the ability to restrict, in a CCD, which elements may validly have instance data.

In the CCD[1] complexType restriction below, we want to allow instance data to have either, a *datetime*, a *date* or a *year and month* entry. All other elements have maxOccurs=0 (see the README.txt and other files in the tests/2\_4\_1 directory for complete examples).

```
<xs:complexType name='ct-0ac3f22e-64ca-4309-be88-874cd14649a0'>
  <xs:complexContent>
    <xs:restriction base='mlhim2:DvTemporalType'>
      <xs:sequence>
        <xs:element maxOccurs='1' minOccurs='1' name='data-name' type='xs:string' fixed='Temporal Test' />
        <xs:element maxOccurs='1' minOccurs='0' ref='mlhim2:ExceptionalValue' />
        <xs:element maxOccurs='1' minOccurs='0' name='valid-time-begin' type='xs:dateTime' />
        <xs:element maxOccurs='1' minOccurs='0' name='valid-time-end' type='xs:dateTime' />
        <xs:element maxOccurs='1' minOccurs='0' ref='mlhim2:normal-range' />
        <xs:element maxOccurs='unbounded' minOccurs='0' ref='mlhim2:other-reference-ranges' />
        <xs:element maxOccurs='1' minOccurs='0' name='normal-status' type='xs:string' />
        <xs:element maxOccurs='1' minOccurs='0' name='dvtemporal-date' type='xs:date' />
        <xs:element maxOccurs='0' minOccurs='0' name='dvtemporal-time' type='xs:time' />
        <xs:element maxOccurs='1' minOccurs='0' name='dvtemporal-datetime' type='xs:dateTime' />
        <xs:element maxOccurs='0' minOccurs='0' name='dvtemporal-day' type='xs:gDay' />
        <xs:element maxOccurs='0' minOccurs='0' name='dvtemporal-month' type='xs:gMonth' />
        <xs:element maxOccurs='0' minOccurs='0' name='dvtemporal-year' type='xs:gYear' />
        <xs:element maxOccurs='1' minOccurs='0' name='dvtemporal-year-month' type='xs:gYearMonth' />
        <xs:element maxOccurs='0' minOccurs='0' name='dvtemporal-month-day' type='xs:gMonthDay' />
        <xs:element maxOccurs='0' minOccurs='0' name='dvtemporal-duration' type='xs:duration' />
      </xs:sequence>
    </xs:restriction>
  </xs:complexContent>
</xs:complexType>
```

[1]only the significant portion of he CCD is shown.

Thank you,  
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