<AutomationML/>

The Glue for Seamless Automation Engineering

Best Practice Recommendations: Multilingual expressions in AutomationML

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Table of contents

List of figures

Preface

AutomationML provides the basis for an efficient data exchange within the engineering process of production systems. The AutomationML standard series IEC 62714 “Engineering data exchange format for use in industrial automation systems engineering” already contains many use cases and guidelines of how system engineering information is modelled.

In order to specify these definitions with examples, to apply them to specific use cases, and to facilitate the first steps with AutomationML, specific issues for the modelling of data in AutomationML are illustrated in Best Practice Recommendations (BPR).

In addition, the BPR shall provide a consistent realisation for specific use cases and shall thus, complement the AutomationML standard documents.

1 Motivation for the modelling of multilingual expressions

Within different tools which are involved in the engineering process and in automation, it is possible to store different texts for different languages and use them by switching between them. At it, it is not only about tool specific labels of input boxes, but also about engineered information like component descriptions, comments as well as labels within HMI, plant documentation tools, and within electrical drawings.

2 Realisation

Multilingual expressions are modelled as nested attributes. At it, the parent attribute has the name of the label and has a value with the label written in the default language. The individual languages are modelled as child attributes. The names of the child attributes are the prefix “aml-lang=” with the expression of the language in compliance with RFC5654. At it, the values of the child attributes are the labels within the respective language.

In order to not exclude any tools which do not support a language switch resp. the described mechanism, the label has to be filled in the default language.

3 Example

In the following example, the display name has to be stored at the attribute “Label” in English, German, and French.

For this purpose, the child attributes “aml-lang=en-US”, “aml-lang=de-DE”, and “aml-lang=fr-FR” were created. They contain the corresponding labels as values.

In this case the German expression was chosen as the default expression.

The description is intended to provide a better understanding and is not binding.

Figure 1 and Figure 2 show the implementation with the AML-Editor and the corresponding XML text.

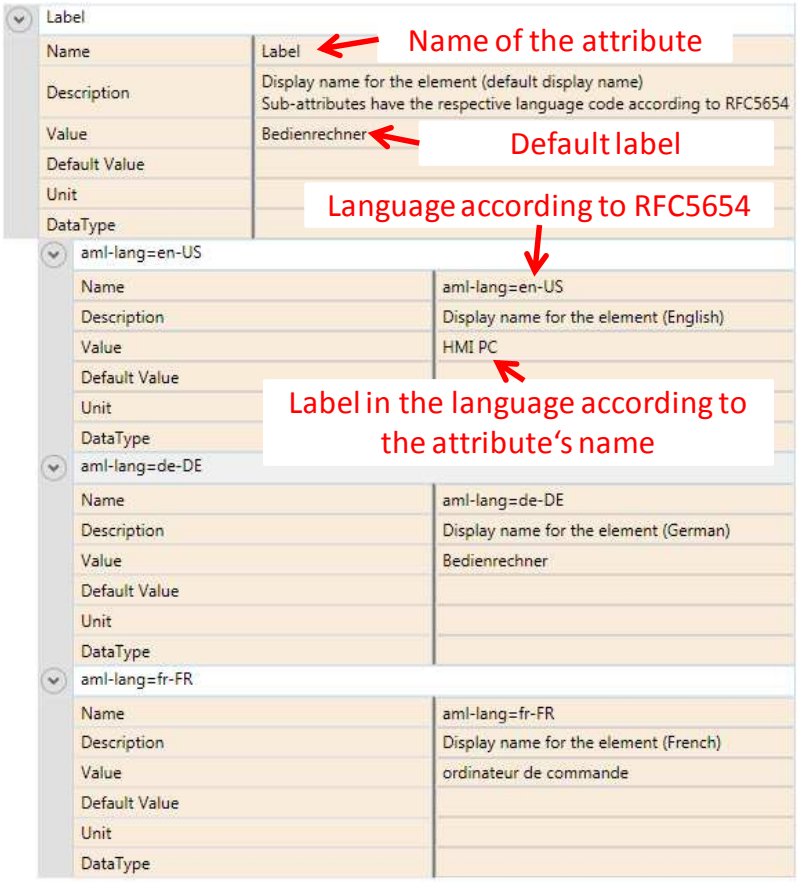

Figure 1 – Multilingual attributes with the AML-Editor

```
<Attribute Name="Label">
  <Description>Display name for the element (default display name)
Sub-attributes have the respective language code according to RFC5654</Description>
  <Value>Bedienrechner</Value>
  <Attribute Name="aml-lang=en-US">
    <Description>Display name for the element (English)</Description>
    <Value>HMI PC</Value>
  </Attribute>
  <Attribute Name="aml-lang=de-DE">
    <Description>Display name for the element (German)</Description>
    <Value>Bedienrechner</Value>
  </Attribute>
  <Attribute Name="aml-lang=fr-FR">
    <Description>Display name for the element (French)</Description>
    <Value>ordinateur de commande</Value>
  </Attribute>
</Attribute>
```

Figure 2 – XML text of multilingual attributes

4 References

RFC5654