**Micro Event Extension**

**Background**

Many current Business Process Management Suites (BPMS) can define *nested activities* in order to provide a summary view and an abstract flow by hiding the nested activities. The nested activities may also be called *sub activities*, *micro activities*, *sub process*, and so on. Several BPMSs support sub activities [1-3]. Examples of nested activities include executions of web services, web pages, and manual processes. For example, in IBM BPM [1], a process designer first defines an abstract flow of activities. Then he selects one of the activities, moves to the nested activity view, and defines web pages that actually conduct the selected parent activity.

In order to analyse the behaviours of such nested activities, the history of the nested activities must be recorded in event logs. We call an event of the nested activity a *micro event*. By using some kind of workaround, we can record the micro events to an existing XES based event log. However, they tend to contaminate the xml element of the parent activity. Before we become awash with several variations of workaround based event logs that record micro events, we have to demonstrate how micro events are appropriately stored in event logs.

**Definition**

The micro event extension defines a nested element for storing information about the micro events associated with activities within a log.

The extension is defined as shown in the table below:

<table>
<thead>
<tr>
<th>Extension definition</th>
<th>Name</th>
<th>Prefix</th>
<th>Extension URI</th>
</tr>
</thead>
</table>

The extension defines the following attributes:

<table>
<thead>
<tr>
<th>No</th>
<th>XES Attribute key</th>
<th>Definition</th>
<th>XES datatype</th>
<th>Occ.</th>
<th>Allowed values, examples, other constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>events</td>
<td>Container element for micro events</td>
<td>List</td>
<td>1</td>
<td>It contains a list of micro events and attributes of a set of micro events.</td>
</tr>
<tr>
<td>2</td>
<td>event</td>
<td>Container element for micro event</td>
<td>List</td>
<td>1-n</td>
<td>It contains attributes of one micro event.</td>
</tr>
</tbody>
</table>

**XES extension**

```xml
<xesextension
  name="Micro"
  prefix="micro"
  url="http://www.xes-standard.org/micro.xesext">>
  <event>
    <list key="events">
      <alias mapping="EN" name="List of micro events for this event"/>
    </list>
    <int key="length">
      <alias mapping="EN" name="Number of micro events for this event"/>
    </int>
  </event>
</xesextension>
```
Assume that a top level activity 'Register' consists of three nested activities, 'input_customer_info', 'input_insurance_app', and 'input_etc'. The history of micro events are stored under the parent event. An event that is parent of micro events can have attributes of the micro event list such as "the length of micro events was three". A container element micro event contains attributes of the micro event such as the name of a web page, a timestamp, and so on.

References


http://docs.oracle.com/cd/E25178_01/doc.1111/e15176/model_bus_procs_bpmpd.htm
#CJADJBHC