

H.761 Support of a New Syntax to Refer NCL-Node-Properties Instead of the Current "Take It From There" Syntax

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ABSTRACT

Every NCL link relates two or more Node interfaces. When an NCL developer define a link bind, however, it should always use BOTH component and interface attributes. This leads to two problems: (a) require define two XML elements, which is tedious and error-prone; (b) require bad "Take It From There" workaround to access an interface from a Node participating in the link. We propose that component is optional. Then each interface can be accessed by an id which must be unique regarding the events of the same type in its container object. We propose a naming convention for identifying interfaces within a Document

KEYWORDS

NCL, Ginga

1 BACKGROUND

In H,761[1], every NCL link relates two or more Node interfaces. When an NCL developer defines a link bind, however, it should always use BOTH component and interface attributes. This leads to two problems: (a) **require define two XML elements, which is tedious and error-prone;** (b) **require bad "Take It From There" workaround to access an interface from a Node participating in the link.**

2 PROPOSAL

We propose that component be optional. Then each interface can be accessed by an id which must be unique regarding the events of the same type in its container object. We propose using the following naming convention for identifying events within a Document:

- "x@y" stands for the presentation event y of object x.
- "x.y" stands for the attribution event (property) y of object x.
- "x" stands for the selection event with key y of object x.

```
1 <ncl>
2 <head>
3   <connectorBase>
4     <causalConnector id="onBeginSet">
5       <connectorParam name="var"/>
6       <connectorParam name="key"/>
7       <simpleCondition role="onBegin"/>
8       <simpleCondition role="onSelection" key="$key" />
9       <simpleAction role="set" value="$var"/>
10    </causalConnector>
11 </head>
```

In: Future of Interactive Television Workshop (V WTVDI), Rio de Janeiro, Brasil. Anais Estendidos do Simpósio Brasileiro de Sistemas Multimídia e Web (WebMedia). Porto Alegre: Sociedade Brasileira de Computação, 2019. ISSN 2596-1683

```
12 <body>
13   <port id="start" />
14   <media id="timer">
15     <property name="background" value="red"/>
16     <property name="bounds" value="25%,25%,50%,50%"/>
17     <area id="a1" begin="1s"/>
18   </media>
19   <media id="settings" type="x-ginga-settings" >
20     <property name="newvalue" value="green"/>
21   </media>
22   <link xconnector="onBeginSet">
23     <bind role="onBegin" component="timer" interface="a1"/>
24     <bind role="get" component="settings" interface="newvalue"/>
25     <bind role="set" component="timer" interface="background">
26       <bindParam name="var" value="\$get"/>
27     </bind>
28   </link>
29 </body>
30 </ncl>
```

Listing 1: NCL code fragment with problems.

This syntax is detailed the paper Dynamic Integration of Foreign-Language Parsers into an NCL Player.

```
1 <ncl>
2 <head>
3   <connectorBase>
4     <causalConnector id="onBeginSet">
5       <connectorParam name="var"/>
6       <simpleCondition role="onBegin"/>
7       <simpleAction role="set" value="\$var"/>
8     </causalConnector>
9 </head>
10 <body>
11   <port id="start" />
12   <media id="timer">
13     <property name="background" value="red"/>
14     <property name="bounds" value="25%,25%,50%,50%"/>
15     <area id="a1" begin="1s"/>
16   </media>
17   <media id="settings" type="x-ginga-settings" >
18     <property name="newvalue" value="green"/>
19   </media>
20   <link xconnector="onBeginSet">
21     <bind role="onBegin" interface="timer@a1"/>
22     <bind role="set" interface="background">
23       <bindParam name="var" value="settings.newvalue"/>
24     </bind>
25   </link>
26 </body>
27 </ncl>
```

Listing 2: NCL code fragment using the proposed approach.

3 USE CASE

The following code presents the two cited problems (a) and (b).

The following use case illustrates how our proposal resolves the problems. In this code, the media "timer" will be with a green background after 1s.

REFERENCES

- [1] ITU. 2009. *H.761: Nested Context Language (NCL) and Ginga-NCL for IPTV Services*. Technical Report. ITU, Geneva, Switzerland. <https://www.itu.int/rec/T-REC-H.761>