

Software Engineering - Project Wide Standard

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1 Rules

1.1 XML Structure

- The top level element is the slideshow element.
- The slideshow element must include both documentinfo and defaultsettings elements. These elements must occur in the order documentinfo, defaultsettings.
- The slideshow element must include 1 or more slide elements.
- The documentinfo element must include author, version, comment and groupid elements. These elements may occur in any order.
- The defaultsettings element must include backgroundcolor, font, fontsize and fontcolor elements. These elements may occur in any order.
- The slide element can include any number of text, image, audio, video and graphics elements. These elements can occur in any order.
- The text element must include xstart and ystart attributes.
- The text element can include sourcefile, font, fontsize, fontcolor and duration attributes.
- The text element can be an empty element, if a source file is specified.
- The image element cannot include any child elements.
- The image element must include sourcefile, xstart and ystart attributes.
- The image element can include scale, duration and starttime attributes.
- The audio element cannot include any child elements.
- The audio element must include a sourcefile attribute.
- The audio element can include a starttime attribute.
- The video element cannot include any child elements.
- The video element must include sourcefile, xstart and ystart attributes.
- The graphics element must include type, xstart, ystart, xend, yend, solid and graphiccolor attributes.
- The graphics element can include a duration attribute.
- The graphics element can include a cyclicshading element.
- The cyclicshading element cannot include any elements.
- The cyclicshading element must include a shadingcolor attribute.

1.2 Additional Rules

- XML, and therefore the project wide standard, is case sensitive. All element names, attribute names and data must be written purely in lower case characters.
- Color is always spelt color, not colour.
- All colors are described as 8 digit hex strings in ARGB format. (The alpha channel is the first two digits).
- All position values are relative to screen size, measured from the top left corner of the screen, and describe the top left corner of the object. The value is a float data type, in the range 0.0 - 1.0.
- All duration values are given in seconds. The value is a float data type.
- Where a duration value is not given an infinite duration is implied.
- A group ID value of 0 specifies that the file uses the standard format, with no group's extensions.
- All font sizes are integer pt sizes.
- The standard supports both 'arial' and 'times new roman' fonts.
- Slides occur in the XML file in sequential order, first to last.
- Text source files should be of type '.txt'.
- Image source files should be of type '.png' or '.jpg'.
- Audio source files should be of type '.wav'.
- Video source files should be of type '.mkv'.
- Image scale attribute is relative to the dimensions of the source file. The value is a float data type greater than 0.
- The graphic 'type' attribute supports the following values: oval, rectangle, line.

2 Example XML file

```
1 <?xml version="1.0"?>
2
3 <slideshow>
4   <documentinfo>
5     <author>Ali Jewers</author>
6     <version>1.0</version>
7     <comment>this is a comment</comment>
8     <groupid>4</groupid>
9   </documentinfo>
10  <defaultsettings>
11    <backgroundcolor>#ff00ff00</backgroundcolor>
12    <font>times new roman</font>
13    <fontsize>24</fontsize>
14    <fontcolor>#ffcccc00</fontcolor>
15  </defaultsettings>
16  <slide>
17    <text sourcefile="null" xstart="0.5" ystart="0.5" font="arial" fontsize="24" fontcolor="
18    #00112233" duration="1.5">
19      Some Text.
20    </text>
21    <image sourcefile="selfie.jpg" xstart="0.5" ystart="0.5" scale="1.0" duration="1.5"
22    starttime="2.0" />
23    <audio sourcefile="gavel.wav" starttime="2.5" />
24    <video sourcefile="avengers.mkv" xstart="0.5" ystart="0.5" />
25    <graphic type="oval/rectangle/line" xstart="0.5" ystart="0.5" xend="0.7" yend="0.7" solid=
26    "true" graphiccolor="#11223344" duration="1.5">
27      <cyclicshading shadingcolor="#88776655" />
28    </graphic>
29  </slide>
30</slideshow>
```

3 Schema

```

1 <?xml version="1.0"?>
2 <xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeFormDefault="unqualified"
   elementFormDefault="qualified">
3   <xs:element name="slideshow">
4     <xs:complexType>
5       <xs:sequence>
6         <xs:sequence>
7           <xs:element name="documentinfo">
8             <xs:complexType>
9               <xs:all>
10                <xs:element type="xs:string" name="author" />
11                <xs:element type="xs:string" name="version" />
12                <xs:element type="xs:string" name="comment" />
13                <xs:element type="xs:integer" name="groupid" />
14              </xs:all>
15            </xs:complexType>
16          </xs:element>
17          <xs:element name="defaultsettings">
18            <xs:complexType>
19              <xs:all>
20                <xs:element type="xs:string" name="backgroundcolor" />
21                <xs:element type="xs:string" name="font" />
22                <xs:element type="xs:integer" name="fontsize" />
23                <xs:element type="xs:string" name="fontcolor" />
24              </xs:all>
25            </xs:complexType>
26          </xs:element>
27        </xs:sequence>
28        <xs:sequence minOccurs="1" maxOccurs="unbounded">
29          <xs:element name="slide">
30            <xs:complexType>
31              <xs:choice minOccurs="0" maxOccurs="unbounded">
32                <xs:element name="text">
33                  <xs:complexType>
34                    <xs:simpleContent>
35                      <xs:extension base="xs:string">
36                        <xs:attribute type="xs:string" name="sourcefile" />
37                        <xs:attribute type="xs:float" name="xstart" use="required" />
38                        <xs:attribute type="xs:float" name="ystart" use="required" />
39                        <xs:attribute type="xs:string" name="font" />
40                        <xs:attribute type="xs:integer" name="fontsize" />
41                        <xs:attribute type="xs:string" name="fontcolor" />
42                        <xs:attribute type="xs:float" name="duration" />
43                      </xs:extension>
44                    </xs:simpleContent>
45                  </xs:complexType>
46                </xs:element>

```

```
47 <xs:element name="image">
48   <xs:complexType>
49     <xs:simpleContent>
50       <xs:extension base="xs:string">
51         <xs:attribute type="xs:string" name="sourcefile" use="required" />
52         <xs:attribute type="xs:float" name="xstart" use="required" />
53         <xs:attribute type="xs:float" name="ystart" use="required" />
54         <xs:attribute type="xs:float" name="scale" />
55         <xs:attribute type="xs:float" name="duration" />
56         <xs:attribute type="xs:float" name="starttime" />
57       </xs:extension>
58     </xs:simpleContent>
59   </xs:complexType>
60 </xs:element>
61 <xs:element name="audio">
62   <xs:complexType>
63     <xs:simpleContent>
64       <xs:extension base="xs:string">
65         <xs:attribute type="xs:string" name="sourcefile" use="required" />
66         <xs:attribute type="xs:float" name="starttime" />
67       </xs:extension>
68     </xs:simpleContent>
69   </xs:complexType>
70 </xs:element>
71 <xs:element name="video">
72   <xs:complexType>
73     <xs:simpleContent>
74       <xs:extension base="xs:string">
75         <xs:attribute type="xs:string" name="sourcefile" use="required" />
76         <xs:attribute type="xs:float" name="xstart" use="required" />
77         <xs:attribute type="xs:float" name="ystart" use="required" />
78       </xs:extension>
79     </xs:simpleContent>
80   </xs:complexType>
81 </xs:element>
82 <xs:element name="graphic">
83   <xs:complexType>
84     <xs:choice minOccurs="0">
85       <xs:element name="cyclicshading">
86         <xs:complexType>
87           <xs:simpleContent>
88             <xs:extension base="xs:string">
89               <xs:attribute type="xs:string" name="shadingcolor" use="required" />
90             </xs:extension>
91           </xs:simpleContent>
92         </xs:complexType>
93       </xs:element>
94     </xs:choice>
95     <xs:attribute type="xs:string" name="type" use="required" />
96     <xs:attribute type="xs:float" name="xstart" use="required" />
```

```
97         <xs:attribute type="xs:float" name="ystart" use="required" />
98         <xs:attribute type="xs:float" name="xend" use="required" />
99         <xs:attribute type="xs:float" name="yend" use="required" />
100        <xs:attribute type="xs:boolean" name="solid" use="required" />
101        <xs:attribute type="xs:string" name="graphiccolor" use="required" />
102        <xs:attribute type="xs:float" name="duration" />
103      </xs:complexType>
104    </xs:element>
105  </xs:choice>
106 </xs:complexType>
107 </xs:element>
108 </xs:sequence>
109 </xs:sequence>
110 </xs:complexType>
111 </xs:element>
112 </xs:schema>
```
