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 deafualtsettings elements. These elements must occur in the order documentinfo, deafultsettings.
- 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, ystart and duration attributes.
- The text element can include sourcefile, font, fontsize and fontcolor attributes.
- 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 cylclicshading 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 insensitive.

- 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.

- 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.

- 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="
    #00112233"  duration="1.5">
18             Some Text.
19         </text>
20         <image sourcefile="selfie.jpg" xstart="0.5" ystart="0.5" scale="1.0" duration="1.5"
    starttime="2.0" />
21         <audio sourcefile="gavel.wav" starttime="2.5" />
22         <video sourcefile="avengers.mkv" xstart="0.5" ystart="0.5" />
23         <graphic type="oval/rectangle/line" xstart="0.5" ystart="0.5" xend="0.7" yend="0.7" solid=
    "true" graphiccolor="#11223344" duration="1.5">
24             <cyclicshading shadingcolor="#88776655" />
25         </graphic>
26     </slide>
27 </slideshow>
```

3   Schema

```xml
<?xml version="1.0"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeFormDefault="unqualified"
    elementFormDefault="qualified">
  <xs:element name="slideshow">
    <xs:complexType>
      <xs:sequence>
        <xs:sequence>
          <xs:element name="documentinfo">
            <xs:complexType>
              <xs:all>
                <xs:element type="xs:string" name="author" />
                <xs:element type="xs:string" name="version" />
                <xs:element type="xs:string" name="comment" />
                <xs:element type="xs:integer" name="groupid" />
              </xs:all>
            </xs:complexType>
          </xs:element>
          <xs:element name="defaultsettings">
            <xs:complexType>
              <xs:all>
                <xs:element type="xs:string" name="backgroundcolor" />
                <xs:element type="xs:string" name="font" />
                <xs:element type="xs:integer" name="fontsize" />
                <xs:element type="xs:string" name="fontcolor" />
              </xs:all>
            </xs:complexType>
          </xs:element>
        </xs:sequence>
        <xs:sequence minOccurs="1" maxOccurs="unbounded">
          <xs:element name="slide">
            <xs:complexType>
              <xs:choice minOccurs="0" maxOccurs="unbounded">
                <xs:element name="text">
                  <xs:complexType>
                    <xs:simpleContent>
                      <xs:extension base="xs:string">
                        <xs:attribute type="xs:string" name="sourcefile" />
                        <xs:attribute type="xs:float" name="xstart" use="required" />
                        <xs:attribute type="xs:float" name="ystart" use="required" />
                        <xs:attribute type="xs:string" name="font" />
                        <xs:attribute type="xs:integer" name="fontsize" />
                        <xs:attribute type="xs:string" name="fontcolor" />
                        <xs:attribute type="xs:float" name="duration" use="required" />
                      </xs:extension>
                    </xs:simpleContent>
                  </xs:complexType>
                </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>
```