SmartSlides 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 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 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 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   Text Handler

Five different XML text standards need to be supported, which are shown below.

The hierarchy for settings is program defaults, slideshow defaults(if the parameter exists), text element, richtext element.

2.1   Text included with a null string for sourcefile

```
1 <text sourcefile="null" xstart="0.5" ystart="0.5">
2     Some Text.
3 </text>
4
5     Some Text.
6
7 (If sourcefile is null, display chars inside text)
```

2.2   Text included with no sourcefile attribute

```
1 <text xstart="0.5" ystart="0.5">
2     Some Text.
3 </text>
4
5     Some Text.
6
7 (If sourcefile attribute is missing, display chars inside text)
```

2.3   Text from sourcefile

```
1 <text sourcefile="text.txt" xstart="0.5" ystart="0.5"/>
2
3     (Text from sourcefile)
4
5 Perhaps wrap the thing.
```

2.4   Text from list of richtext elements

```
1 <text xstart="0.5" ystart="0.5">
2     <richtext newline="true">Example text!</richtext>
3     <richtext newline="false">Hello</richtext>
4     <richtext newline="true">World!</richtext>
5 </text>
6
7 Example Text!
8 HelloWorld!
```

3   Example XML file

```xml
<?xml version="1.0"?>

<slideshow>
    <documentinfo>
        <author>Tom Davidson</author>
        <version>1.0</version>
        <comment>this is a comment</comment>
        <groupid>2</groupid>
    </documentinfo>
    <defaultsettings>
        <backgroundcolor>#ff00ff00</backgroundcolor>
        <font>times new roman</font>
        <fontsize>24</fontsize>
        <fontcolor>#ffcccc00</fontcolor>
        <graphiccolor>#ffaaaa00</graphiccolor>
    </defaultsettings>
    <slide>
        <text sourcefile="null" xstart="0.5" ystart="0.5" font="arial" fontsize="24" fontcolor="
#00112233"  duration="1.5">
            Some Text.
        </text>

        <text xstart="0.5" ystart="0.5" font="arial" fontsize="24" fontcolor="#00112233" duration=
"1.5" starttime="2.0">
            <richtext font="arial" fontsize="26" fontcolor="#11223344" newline="true" b="true" i="
true" u="true" strikethrough="true" superscript="true" subscript="true" case="upper/lower/
camel" alignment="left/right/centre">Example text!</richtext>
            <richtext font="arial" fontsize="26" fontcolor="#11223344" newline="true" b="true" i="
true" u="true" strikethrough="true" superscript="true" subscript="true" case="upper/lower/
camel" alignment="left">Example text!</richtext>
            <richtext font="arial" fontsize="26" fontcolor="#11223344" newline="true" b="true" i="
true" u="true" strikethrough="true" superscript="true" subscript="true" case="upper/lower/
camel" alignment="left">Example text!</richtext>
        </text>

        <text xstart="0.5" ystart="0.5" font="arial" fontsize="24" fontcolor="#00112233" duration=
"1.5" starttime="2.0">
            <richtext font="arial" fontsize="26" fontcolor="#11223344" newline="true" b="true" i="
true" u="true" strikethrough="true" superscript="true" subscript="true" case="upper/lower/
camel" alignment="left">Example text!</richtext>
            <richtext font="arial" fontsize="26" fontcolor="#11223344" newline="true" b="true" i="
true" u="true" strikethrough="true" superscript="true" subscript="true" case="upper/lower/
camel" alignment="left">Example text!</richtext>
        </text>

        <image sourcefile="cat.jpg" xstart="0.5" ystart="0.5" scale="1.0" duration="1.5" starttime
="2.0" />
```

```
34
35          <image sourcefile="selfie.jpg" xstart="0.5" ystart="0.5" scale="1.0" duration="1.5"
       starttime="2.0" rotate="90" fliphorizontal="true" flipvertical="true" cropx1="0.0" cropy1="0.0
       " cropx2="0.5" cropy2="0.5"/>
36
37          <audio sourcefile="gavel.wav" starttime="2.5" />
38          <video sourcefile="avengers.mkv" xstart="0.5" ystart="0.5" />
39
40
41          <graphic type="oval/rectangle/line" xstart="0.5" ystart="0.5" xend="0.7" yend="0.7" solid=
       "true" graphiccolor="#11223344" duration="1.5">
42              <cyclicshading shadingcolor="#88776655" />
43          </graphic>
44
45          <graphic graphiccolor="#11223344" duration="1.5" starttime="2.0">
46              <oval xstart="0.5" ystart="0.5" xend="0.7" yend="0.7" solid="true"/>
47              <cyclicshading shadingcolor="#88776655" />
48          </graphic>
49
50          <graphic graphiccolor="#11223344" duration="1.5" starttime="2.0">
51              <rectangle xstart="0.5" ystart="0.5" xend="0.7" yend="0.7" solid="true"/>
52          </graphic>
53
54          <graphic graphiccolor="#11223344" duration="1.5" starttime="2.0">
55              <line xstart="0.5" ystart="0.5" xend="0.7" yend="0.7"/>
56          </graphic>
57
58          <graphic graphiccolor="#11223344" duration="1.5" starttime="2.0">
59              <itriangle xstart="0.5" ystart="0.5" xend="0.7" yend="0.7" solid="true"/>
60          </graphic>
61      </slide>
62  </slideshow>
```

4 Schema

```xml
<?xml version="1.0" encoding="UTF-8"?>
<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 name="backgroundcolor">
                  <xs:simpleType>
                    <xs:restriction base="xs:string">
                      <xs:pattern value="[#]([a-fA-F0-9]{8})" />
                    </xs:restriction>
                  </xs:simpleType>
                </xs:element>
                <xs:element type="xs:string" name="font" />
                <xs:element type="xs:positiveInteger" name="fontsize" />
                <xs:element name="fontcolor">
                  <xs:simpleType>
                    <xs:restriction base="xs:string">
                      <xs:pattern value="[#]([a-fA-F0-9]{8})" />
                    </xs:restriction>
                  </xs:simpleType>
                </xs:element>
                <xs:element name="graphiccolor">
                  <xs:simpleType>
                    <xs:restriction base="xs:string">
                      <xs:pattern value="[#]([a-fA-F0-9]{8})" />
                    </xs:restriction>
                  </xs:simpleType>
                </xs:element>
              </xs:all>
            </xs:complexType>
          </xs:element>
        </xs:sequence>
```

```
47            <xs:sequence minOccurs="1" maxOccurs="unbounded">
48              <xs:element name="slide">
49                <xs:complexType>
50                  <xs:choice minOccurs="0" maxOccurs="unbounded">
51                    <xs:element name="text">
52                      <xs:complexType mixed="true">
53                        <xs:choice minOccurs="0" maxOccurs="unbounded">
54                          <xs:element name="richtext">
55                            <xs:complexType>
56                              <xs:simpleContent>
57                                <xs:extension base="xs:string">
58                                  <xs:attribute type="xs:string" name="font" />
59                                  <xs:attribute type="xs:string" name="fontsize" />
60                                  <xs:attribute type="xs:string" name="fontcolor" />
61                                  <xs:attribute type="xs:boolean" name="newline" />
62                                  <xs:attribute type="xs:boolean" name="b" />
63                                  <xs:attribute type="xs:boolean" name="i" />
64                                  <xs:attribute type="xs:boolean" name="u" />
65                                  <xs:attribute type="xs:boolean" name="strikethrough" />
66                                  <xs:attribute type="xs:boolean" name="superscript" />
67                                  <xs:attribute type="xs:boolean" name="subscript" />
68                                  <xs:attribute type="xs:string" name="case" />
69                                  <xs:attribute type="xs:string" name="alignment" />
70                                </xs:extension>
71                              </xs:simpleContent>
72                            </xs:complexType>
73                          </xs:element>
74                        </xs:choice>
75                        <xs:attribute type="xs:string" name="sourcefile" />
76                        <xs:attribute type="xs:float" name="xstart" use="required" />
77                        <xs:attribute type="xs:float" name="ystart" use="required" />
78                        <xs:attribute type="xs:string" name="font" />
79                        <xs:attribute type="xs:integer" name="fontsize" />
80                        <xs:attribute type="xs:string" name="fontcolor" />
81                        <xs:attribute type="xs:float" name="duration" />
82                        <xs:attribute type="xs:float" name="starttime" />
83                      </xs:complexType>
84                    </xs:element>
85                    <xs:element name="image">
86                      <xs:complexType>
87                        <xs:simpleContent>
88                          <xs:extension base="xs:string">
89                            <xs:attribute type="xs:string" name="sourcefile" use="required" />
90                            <xs:attribute type="xs:float" name="xstart" use="required" />
91                            <xs:attribute type="xs:float" name="ystart" use="required" />
92                            <xs:attribute type="xs:float" name="scale" />
93                            <xs:attribute type="xs:float" name="duration" />
94                            <xs:attribute type="xs:float" name="starttime" />
95                            <xs:attribute type="xs:float" name="rotate" />
96                            <xs:attribute type="xs:boolean" name="fliphorizontal" />
```

```
97                     <xs:attribute type="xs:boolean" name="flipvertical" />
98                     <xs:attribute type="xs:float" name="cropx1" />
99                     <xs:attribute type="xs:float" name="cropy1" />
100                    <xs:attribute type="xs:float" name="cropx2" />
101                    <xs:attribute type="xs:float" name="cropy2" />
102                  </xs:extension>
103                </xs:simpleContent>
104              </xs:complexType>
105            </xs:element>
106            <xs:element name="audio">
107              <xs:complexType>
108                <xs:simpleContent>
109                  <xs:extension base="xs:string">
110                    <xs:attribute type="xs:string" name="sourcefile" use="required" />
111                    <xs:attribute type="xs:float" name="starttime" />
112                  </xs:extension>
113                </xs:simpleContent>
114              </xs:complexType>
115            </xs:element>
116            <xs:element name="video">
117              <xs:complexType>
118                <xs:simpleContent>
119                  <xs:extension base="xs:string">
120                    <xs:attribute type="xs:string" name="sourcefile" use="required" />
121                    <xs:attribute type="xs:float" name="xstart" use="required" />
122                    <xs:attribute type="xs:float" name="ystart" use="required" />
123                  </xs:extension>
124                </xs:simpleContent>
125              </xs:complexType>
126            </xs:element>
127            <xs:element name="graphic">
128              <xs:complexType>
129                <xs:sequence>
130                  <xs:choice minOccurs="0">
131                    <xs:element name="oval">
132                      <xs:complexType>
133                        <xs:simpleContent>
134                          <xs:extension base="xs:string">
135                            <xs:attribute type="xs:float" name="xstart" use="required" />
136                            <xs:attribute type="xs:float" name="ystart" use="required" />
137                            <xs:attribute type="xs:float" name="xend" use="required" />
138                            <xs:attribute type="xs:float" name="yend" use="required" />
139                            <xs:attribute type="xs:boolean" name="solid" />
140                          </xs:extension>
141                        </xs:simpleContent>
142                      </xs:complexType>
143                    </xs:element>
144                    <xs:element name="rectangle">
145                      <xs:complexType>
146                        <xs:simpleContent>
```

9

```
147                            <xs:extension base="xs:string">
148                              <xs:attribute type="xs:float" name="xstart" use="required" />
149                              <xs:attribute type="xs:float" name="ystart" use="required" />
150                              <xs:attribute type="xs:float" name="xend" use="required" />
151                              <xs:attribute type="xs:float" name="yend" use="required" />
152                              <xs:attribute type="xs:boolean" name="solid" />
153                            </xs:extension>
154                          </xs:simpleContent>
155                        </xs:complexType>
156                      </xs:element>
157                      <xs:element name="line">
158                        <xs:complexType>
159                          <xs:simpleContent>
160                            <xs:extension base="xs:string">
161                              <xs:attribute type="xs:float" name="xstart" use="required" />
162                              <xs:attribute type="xs:float" name="ystart" use="required" />
163                              <xs:attribute type="xs:float" name="xend" use="required" />
164                              <xs:attribute type="xs:float" name="yend" use="required" />
165                            </xs:extension>
166                          </xs:simpleContent>
167                        </xs:complexType>
168                      </xs:element>
169                      <xs:element name="itriangle">
170                        <xs:complexType>
171                          <xs:simpleContent>
172                            <xs:extension base="xs:string">
173                              <xs:attribute type="xs:float" name="xstart" use="required" />
174                              <xs:attribute type="xs:float" name="ystart" use="required" />
175                              <xs:attribute type="xs:float" name="xend" use="required" />
176                              <xs:attribute type="xs:float" name="yend" use="required" />
177                              <xs:attribute type="xs:boolean" name="solid" />
178                            </xs:extension>
179                          </xs:simpleContent>
180                        </xs:complexType>
181                      </xs:element>
182                    </xs:choice>
183                    <xs:choice minOccurs="0">
184                      <xs:element name="cyclicshading">
185                        <xs:complexType>
186                          <xs:simpleContent>
187                            <xs:extension base="xs:string">
188                              <xs:attribute type="xs:string" name="shadingcolor" use="required"
      />
189                            </xs:extension>
190                          </xs:simpleContent>
191                        </xs:complexType>
192                      </xs:element>
193                    </xs:choice>
194                  </xs:sequence>
195                  <xs:attribute type="xs:string" name="type" />
```

```
196                         <xs:attribute type="xs:float" name="xstart" />
197                         <xs:attribute type="xs:float" name="ystart" />
198                         <xs:attribute type="xs:float" name="xend" />
199                         <xs:attribute type="xs:float" name="yend" />
200                         <xs:attribute type="xs:boolean" name="solid" />
201                         <xs:attribute type="xs:string" name="graphiccolor" />
202                         <xs:attribute type="xs:float" name="duration" />
203                         <xs:attribute type="xs:float" name="starttime" />
204                     </xs:complexType>
205                   </xs:element>
206                 </xs:choice>
207             </xs:complexType>
208           </xs:element>
209         </xs:sequence>
210       </xs:sequence>
211     </xs:complexType>
212   </xs:element>
213 </xs:schema>
```