

SMIL BASICS

SMIL – Synchronised Multimedia Integrated Language

What does it do?

SMIL – enables us to write interactive multimedia presentations, in a simple and efficient fashion.

What does it look like?

SMIL is an XML tagging language – similar to HTML or any other type of XML you may come across. It consists of tags and attributes within those tags.

How to make a SMIL document

As with HTML a SMIL document is initially defined by an opening and closing set of tags

```
<SMIL>
```

```
</SMIL>
```

The file is to be saved with an ‘.smil’ or ‘.sml’ extension.

Head of the Document

Within the opening and closing SMIL tags you must place a pair of

```
<head>
```

```
</head>
```

tags. These define the head section of the SMIL document. Within the head tags you need to define the layout of your presentation (the height, width, and any regions within the presentation).

Layout

Within the head tags you must define layout tags

```
<layout>
```

```
</layout>
```

Within these layout tags you must define a root a root layout, this is where you define the size of the presentation and other attributes (such as the background colour).

```
<root-layout height="500" width="500" background-color="black" id="main" />
```

Regions

Still within the layout tags you need to define regions within your presentation. A region is a rectangular/square shaped object which media appears in.

To define a region with the layout use the following.

```
<region id="someID" width="200" height="200" top="10" left="10" background-color="white" z-index="1" />
```

The id is the unique identifier you give this region, the height and width define the size of the region, the top and left attributes define how far off the top and left margins of the presentation area the region lies, the background-color defines the background colour and the z-index attribute defines the order of the stacking of the regions.

z-index

As regions can lie over the top of each other it is important to be able to define how far up the stack of regions each area lies. This is done via the z-index attribute.

The higher the z-index number the higher up the stack the region will lie. So for example if we have regions A, B and C, with the z-index's of 1, 2 and 3 respectively, region C will lie on top of regions A and B, B will lie in between A and C, and region A will lie under B and C.

Body of the Document

The body of the document is where the media is defined and the order of display.

The body tags are

```
<body>
```

```
</body>
```

Parallel and Sequence

There are two main tags used when defining the order of the displaying media

```
<seq>
```

</seq>

These are the sequence tags, anything which lies between these tags will play in a sequential order. The other tags are

<par>

</par>

Anything which lies between these tags are run together (in parallel).

Media types

SMIL can integrate many types of media (though this is sometimes limited by the application). Like HTML you need to define a source for your media. You also need to define a region of the presentation in which the play the media.

```
<text src="someText.txt" region="someRegion" />
```

We can also define the amount of time that the media plays for by using the 'dur' attribute, we can set how far into the media we want it to start playing (only useful with sound and video), how much of the region we want the media to fill and give the media an id.

```
<video src="someVid.mpg" region="someRegion" begin="10s" dur="50s" repeat="2" fill="fit" id="someVid" />
```

Fill types

The attribute fill defines how much of the region a particular type of media will fill.

Remove	Specifies that the element will not extend past the end of the last instance of the simple duration.
Freeze	Specifies that the element will extend past the end of the last instance of the simple duration by "freezing" the element state at that point. The parent time container of the element determines how long the element is frozen (as described immediately below).
Hold	Setting this to " hold " has the same effect as setting to " freeze ", except that the element is always frozen to extend to the <i>end of the simple duration of the parent time container</i> of the element (independent of the type of time container). For profiles that support a layered layout model (e.g., SMIL 2.0 Language Profile), held elements (elements with fill="hold") will refresh their display area when a layer is added on top then later removed.
Transition	Setting this to " transition " has the same effect as setting to " freeze ", except that the element is removed at the end of the

	transition. This value is only allowed on elements with media directly associated with them. If specified on any other element (e.g. a time container element in the SMIL language profile), the attribute is ignored.
Auto	<p>The fill behavior for this element depends on whether the element specifies any of the attributes that define the simple or active duration:</p> <ul style="list-style-type: none"> * If none of the attributes dur, end, repeatCount or repeatDur are specified on the element, then the element will have a fill behavior identical to that if it were specified as "freeze".□ * Otherwise, the element will have a fill behavior identical to that if it were specified as "remove".
Default	<p>The fill behavior for the element is determined by the value of the fillDefault attribute.</p> <p>This is the default value.</p> <p>If the application of fillDefault to an element would result in the element having a value of fill that is not allowed on that element, the element will instead have a fill value of "auto".</p>

Media types

MEDIA TYPE	TAG
Animation	<animation src....
Audio	<audio src....
Image	<img src....
Text	<text src....
Video	<video src....