

LSML

Demonstration

```
1 <lecture>
2
3   <info
4     title="An introduction to LSML"
5     description="This is a short introduction to the markup language LSML."
6   />
7   <settings
8     voice="amazon-en-gb-amy"
9     resolution="1920x1080"
10    fps="30"
11    breakAfterSlide="1300"
12    breakAfterParagraph="550"
13  />
14
15  <deck id="slides" src="slides-en.pdf" active="true" />
16
17  Welcome to a demonstration of the functions of the markup language <say-as interpret-as="characters">LSML</say-as>.
18
19  <slide page="2" />
20
21  Here you can see the program code that is currently being read out. But before we get into code, let's get to the basics first.
```

LSML

Lecture Synthesis Markup Language

LSML is a language to define lectures visually and audibly, as well as human and machine-readable, in text form.

LSML

Lecture Synthesis Markup Language

LSML is a language to define lectures visually and audibly, as well as human and machine-readable, in text form.

- Based on the hierarchically structured markup language XML
- SSML (Speech Synthesis Markup Language) is a markup language for speech synthesis
- SSML is used by many text-to-speech services, including Amazon Polly and Google Cloud Text-to-Speech, which are integrated into Lecture.js

SSML

Document Structure	Text Structure	Languages and Voices	Pronunciation Manipulation	External Resources
<code>< speak ></code> <code>< meta /></code> <code>< metadata ></code> <code>< mark ></code>	<code>< p ></code> <code>< s ></code> <code>< token ></code> <code>< w ></code>	<code>< voice ></code> <code>< lang ></code>	<code>< lexicon ></code> <code>< lookup ></code> <code>< say-as ></code> <code>< sub ></code> <code>< phoneme ></code> <code>< emphasis ></code> <code>< break /></code> <code>< prosody ></code>	<code>< audio ></code> <code>< desc ></code>

LSML

Document Structure	Text Structure	Languages and Voices	Pronunciation Manipulation	External Resources
<code>< speak ></code> <code>< meta /></code> <code>< metadata ></code> <code>< mark ></code>	<code>< p ></code> <code>< s ></code> <code>< token ></code> <code>< w ></code>	<code>< voice ></code> <code>< lang ></code>	<code>< lexicon ></code> <code>< lookup ></code> <code>< say-as ></code> <code>< sub ></code> <code>< phoneme ></code> <code>< emphasis ></code> <code>< break /></code> <code>< prosody ></code>	<code>< audio ></code> <code>< desc ></code>

LSML

SSML (Original)

LSML (Edited)

LSML (Removed)

Document Structure	Text Structure	Languages and Voices	Pronunciation Manipulation	External Resources
<div><div>speak</div><div>meta /></div><div>metadata</div><div><mark></div></div>	<div><div><p></div><div><s></div><div><token></div><div><w></div></div>	<div><div><voice></div><div><lang></div></div>	<div><div><lexicon></div><div><lookup></div><div><say-as></div><div><sub></div><div><phoneme></div><div><emphasis></div><div><break /></div><div><prosody></div></div>	<div><div><audio></div><div>desc</div></div>

LSML

SSML (Original)

LSML (Edited)

LSML (Removed)

LSML (New)

Document Structure	Text Structure	Languages and Voices	Pronunciation Manipulation	External Resources
<div><div>speech</div><div>meta /></div><div>metadata</div><div><mark></div><div>
</div><div><lecture></div><div><info /></div><div><settings /></div><div><deck /></div><div><slide /></div></div>	<div><div><p></div><div><s></div><div><token></div><div><w></div></div>	<div><div><voice></div><div><lang></div><div>
</div><div><de></div><div><de-DE></div><div><en></div><div><en-AU></div><div><en-GB></div><div><en-GB-WLS></div><div>
</div><div>...</div></div>	<div><div><lexicon></div><div><lookup></div><div><say-as></div><div><sub></div><div><phoneme></div><div><emphasis></div><div><break /></div><div><prosody></div></div>	<div><div><audio></div><div>desc</div><div>
</div><div><video /></div><div><image /></div></div>


```
1 <lecture>
```

```
2 </lecture>
```

```
1 <lecture>
2   <deck id="slides1" src="slides1.pdf" active="true" />
3 </lecture>
```

```
1 <lecture>
2   <deck id="slides1" src="slides1.pdf" active="true" />
3   This is spoken.
4 </lecture>
```

Deck 1

Page 1

```
1 <lecture>
2   <deck id="slides1" src="slides1.pdf" active="true" />
3   This is spoken.
4 </lecture>
```

```
1 <lecture>
2   <deck id="slides1" src="slides1.pdf" active="true" />
3   <p>
4     <s>This is spoken.</s>
5   </p>
6 </lecture>
```

Deck 1

Page 1

```
1 <lecture>
2   <deck id="slides1" src="slides1.pdf" active="true" />
3   This is spoken.
4 </lecture>
```



```
1 <lecture>
2   <deck id="slides1" src="slides1.pdf" active="true" />
3
4   This is spoken.
5   <slide page="2" />
6   This is spoken on page 2.
7 </lecture>
```

```
1 <lecture>
2   <deck id="slides1" src="slides1.pdf" active="true" />
3   <deck id="slides2" src="slides2.pdf" />
4
5   This is spoken.
6   <slide page="2" />
7   This is spoken on page 2.
8   <slide deck="slides2" page="1" />
9   This is spoken on page 1 of the second slide deck.
10 </lecture>
```

Deck 1

Page 1

Deck 1

Page 2

Deck 2

Page 1

```
1 <lecture>
2   <deck id="slides1" src="slides1.pdf" active="true" />
3
4   <mark name="intro" chapter="Introduction" />
5   This is the introduction.
6
7   <mark name="chapter-2" chapter="Chapter 2: The Beginning" />
8   This is chapter 2.
9 </lecture>
```

Deck 1

Page 1

```
1 <lecture>
2   <deck id="slides1" src="slides1.pdf" active="true" />
3
4   <voice name="google-es-es-wavenet-b">
5     Hola como estas?
6   </voice>
7
8   <voice name="amazon-de-de-vicki">
9     Mir geht es gut! Danke für die Nachfrage!
10  </voice>
11 </lecture>
```


Deck 1

Page 1

```
1 <lecture>
2   <deck id="slides1" src="slides1.pdf" active="true" />
3
4   A pause is inserted <break time="1500ms" /> there.
5   And this sentence is <emphasis level="strong">strongly emphasized.</emphasis>
6 </lecture>
```

Deck 1

Page 1

```
1 <lecture>
2   <deck id="slides1" src="slides1.pdf" active="true" />
3
4   <sub alias="Alpha Beta">AB</sub>
5 </lecture>
```

Deck 1

Page 1

```
1 <lecture>
2   <deck id="slides1" src="slides1.pdf" active="true" />
3
4   <say-as interpret-as="characters">123</say-as>
5 </lecture>
```

Deck 1

Page 1

```
1 <lecture>
2   <deck id="slides1" src="slides1.pdf" active="true" />
3
4   <video src="video.mp4" clipEnd="3s" />
5 </lecture>
```



```
1 <lecture>
2   <deck id="slides1" src="slides1.pdf" active="true" />
3
4   <image src="image.png" />
5   This is an example image.
6 </lecture>
```

```
1 <lecture>
2   <deck id="slides1" src="slides1.pdf" active="true" />
3
4   <audio src="melody.m4a" />
5 </lecture>
```