

Supporting Accessible Content: Lessons from SMIL 1.0 / 2.0 / 3.0

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Take Home Message

Accessibility is *not* about a particular media format

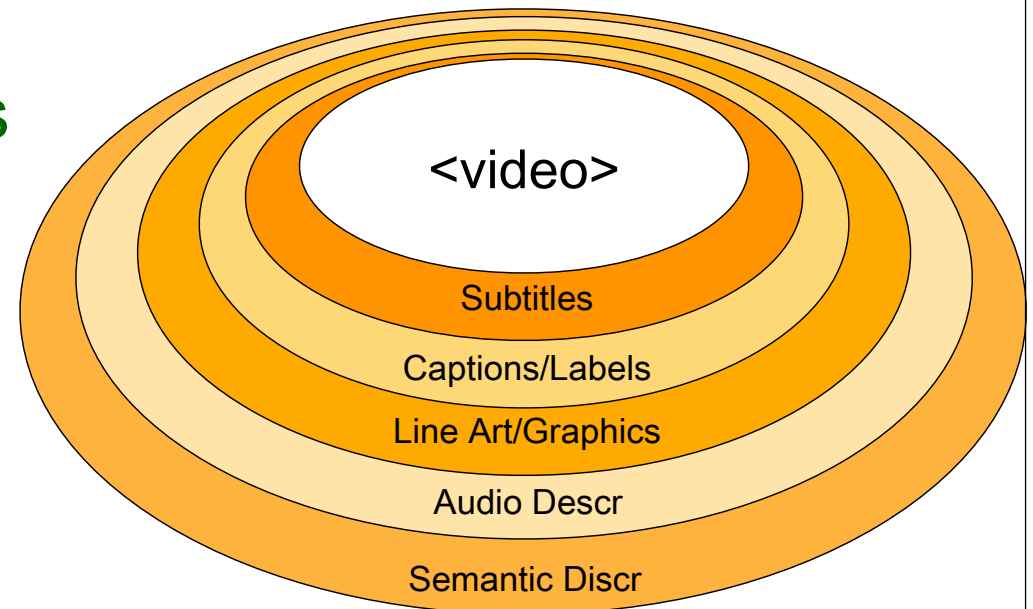
It *is* about:

- supporting selectivity among peer encodings
- a coordination mechanism to manage selection of (independent) media streams
- providing ‘situational accessibility’ support
- *In my personal view, it is ultimately about temporal/spatial coordination and synchronization*

What is Accessible Content?

Video object

- sub-titles
- captions & labels
- line art & graphics
- audio descriptions
- semantic discriminators



Content Insights

Creation/IP Issues

- Not all encodings will be produced by the same party

Server Issues

- Not all content will be co-located

Spatial/Temporal Synchronization

- There may be complex content dependencies
- Each piece of content may not be aware of alternatives

SMIL Support for Alternative Content

SMIL 1.0 (1996)

- **<switch>**: selection based on system test attributes:
 - systemLanguage, systemBitrate, systemCaptions
 - supported alternative selection of parallel tracks

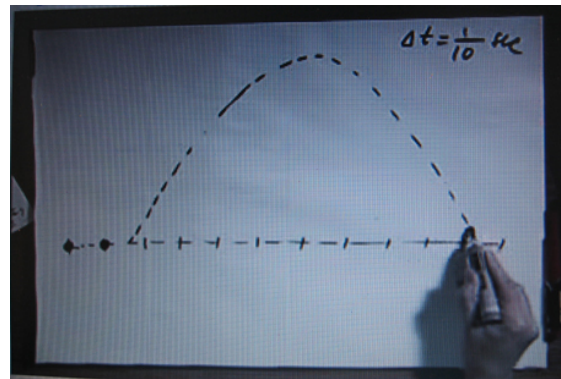


```
<video src="MITguy" ... />  
<switch>  
  <text src="A" systemLanguage="nl"  
    systemCaptions="on" />  
  <text src="B" systemCaptions="on" />  
</switch>
```

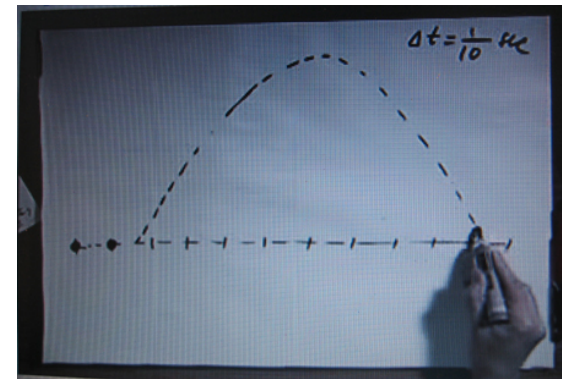
SMIL Support for Alternative Content

SMIL 2.0 (2001)

- Custom test attributes
- `<excl>`: pre-emptive inclusion of content
 - event-based activation
 - provides support for audio captions



Audio
descr



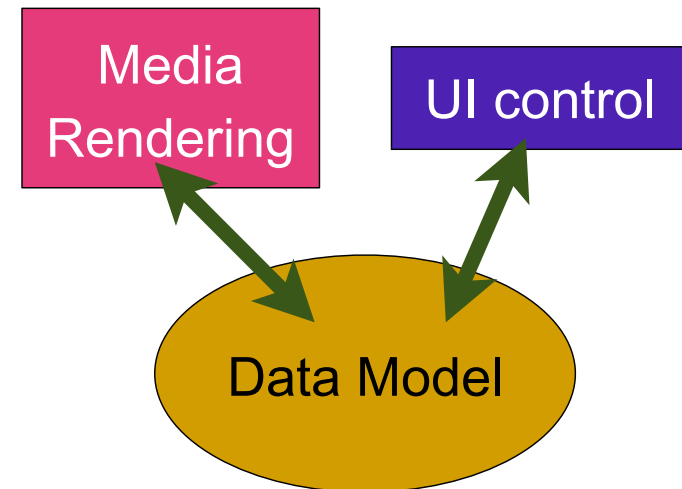
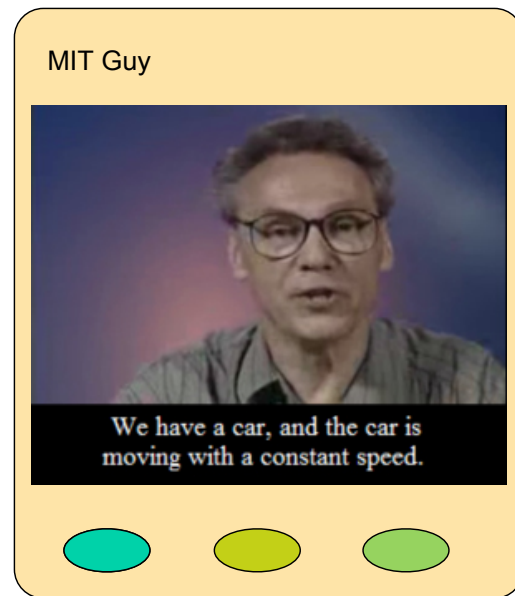
T_{video}

T_{video}

SMIL Support for Alternative Content

SMIL 3.0 (2008)

- `<smilText>`: streamable labels, captions, mW events
- `smilState`: allows coordination via data model
- timed, decentralized metadata
- media pan & zoom (temporal focus)



SmilText

Why not simply reuse DFXP?

- It was not intended to be embedded in SMIL
- It isn't a streaming format
- It doesn't allow mix of absolute/relative/event timing
- It doesn't handle motion text
- Layout + style processing are idiosyncratic

That being said...

- smilText is functionally compatible, with a direct mapping to DFXP (see spec)
- smilText is also a direct replacement for RealText

What Will HTML-5 Need?

Video object can't always determine timeline

- need external-to-video notion of temporal/spatial coordination

Simple media control (Start/Stop/Pause) are not rich enough

- Impossible to enumerate all of the things that you may want to start/stop/pause in parallel

Need to support embedded and external companion content

T/S coordination info: Where?

In companion media object?

- very laborious for fine-grained timing

In script controlling direct activation?

- probably not, 'cause it doesn't scale

In companion synchronization specification?

- good for extensibility
- options:
 - fully external
 - timesheet
 - internal

Editing Complex Presentations

GRiNS (1996-2004)

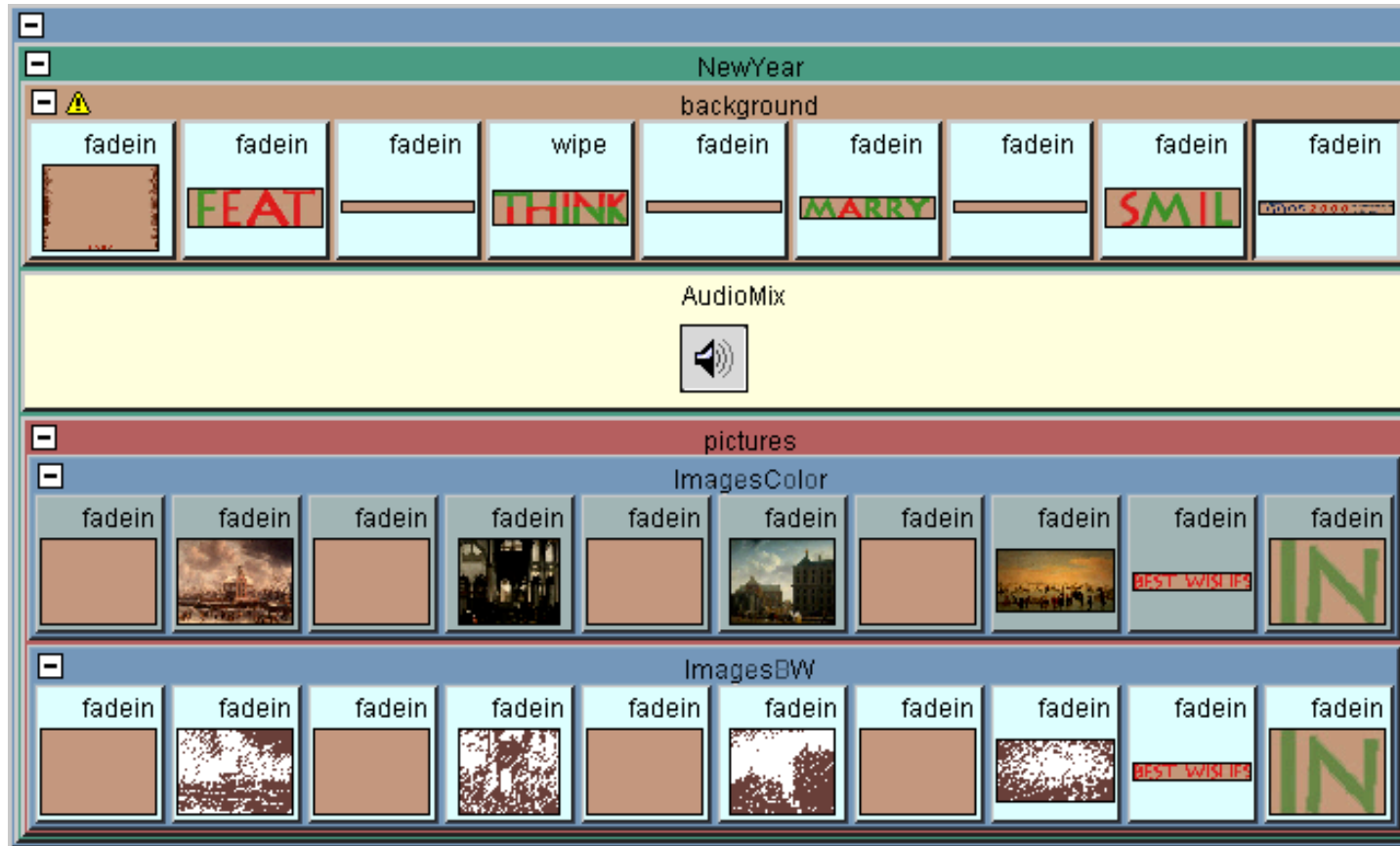


Key concepts:

- Interactive navigation
- Scalable presentations

Combining Timelines and Structure

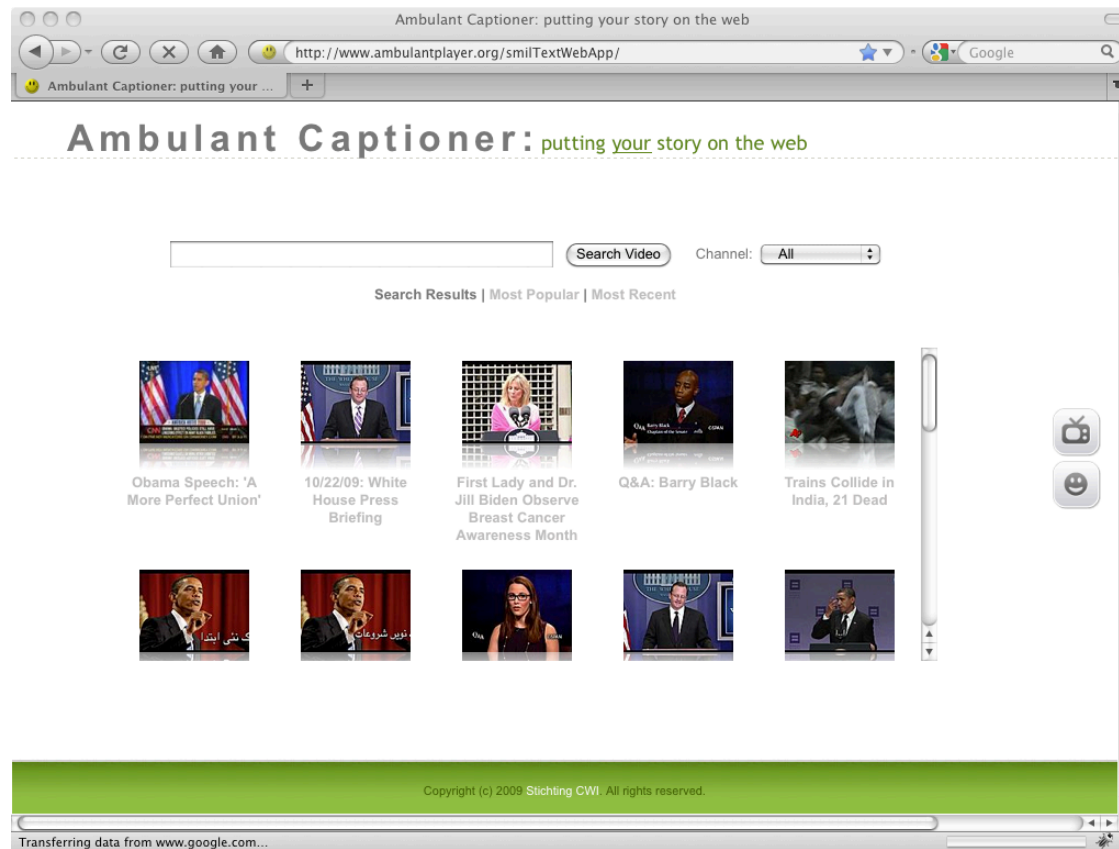
The structured view:



Adding Captions to 3rd Party Videos

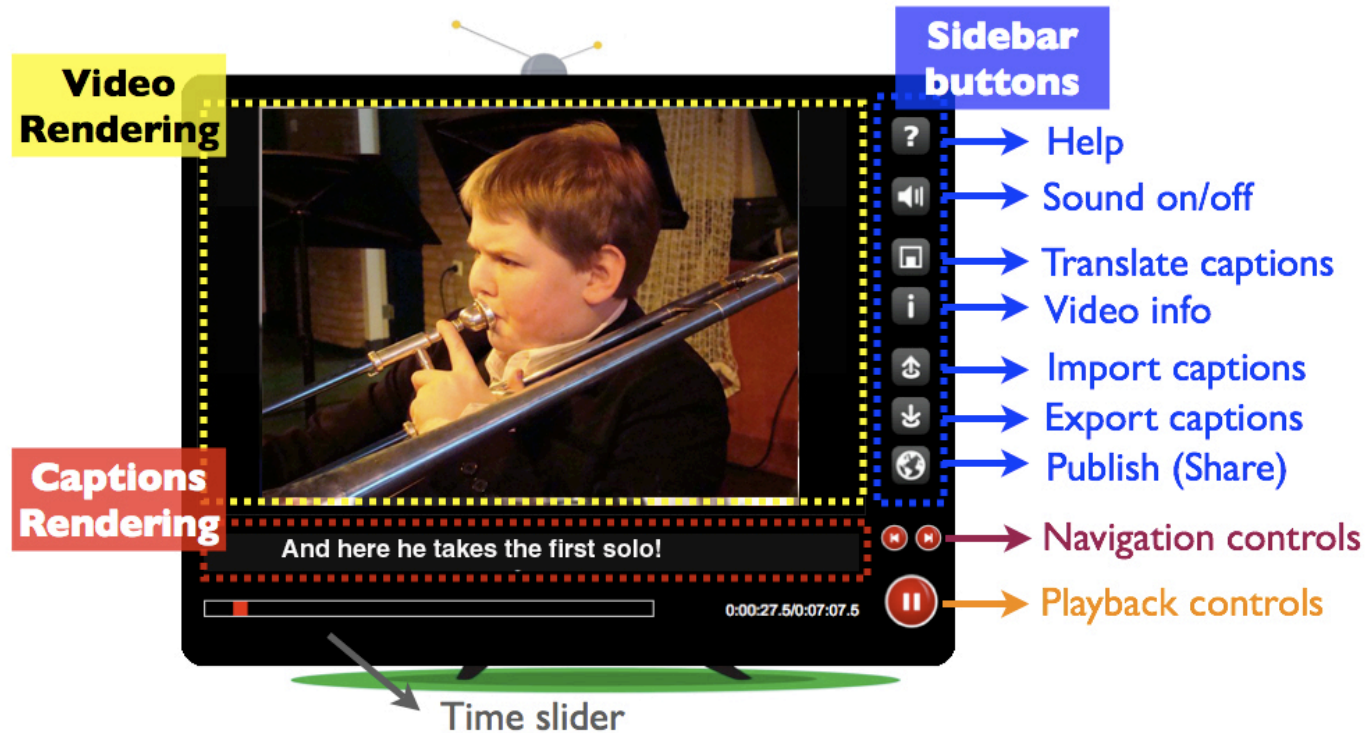
An Aside:

- Helping the community to share comments on videos that other people own



Adding Captions & Labels (and Context)

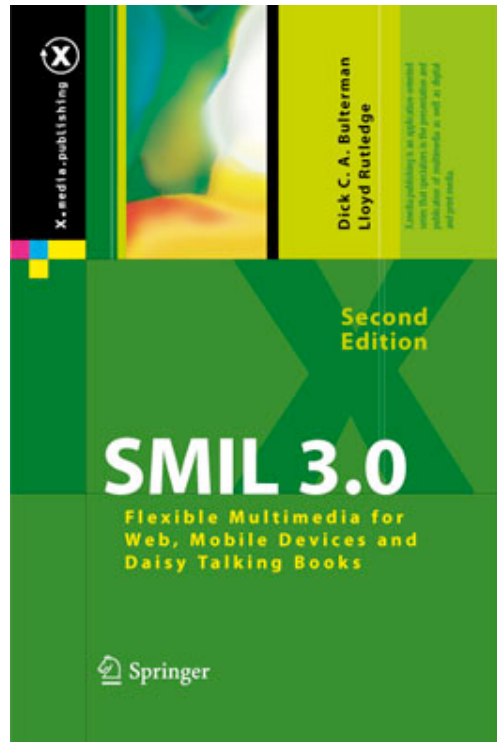
After selection, add comments



Putting Navigation into Captions



More About SMIL & Accessibility



SMIL 3.0 Book:

- xmediaSmil.net

For adding personal context to presentations:

- Captioning Tool:
— www.ambulantPlayer.org/smilTextWebApp/

- Public progress of TA2:
— www.ta2-project.eu



For Javascript Support of SMIL

- [smilText:](http://code.google.com/p/smiltext-javascript/)
— code.google.com/p/smiltext-javascript/
- JS SMIL Player:
— ambulantPlayer.org
- Timesheets
— w3.org/TR/Timesheets