3. Content and external interface adaptation

In some cases it is beneficial for Web Content authors to be able to respond to needs and preferences that require some adaptation of content or delivery of alternative content or alternative interface component directly in the web application. There are several cases:

1. Needs and preferences to which the device is not able to respond.

For example consider a request for caption display where the content has no accompanying captions (closed captions). In this case a web app may be able fetch alternative content which **does** have captions. Similar examples occur with other adaptation types such as video descriptions rendered in audio, transcripts etc.

1. Needs and preferences to which the device has responded but which might require further adaptation from the content/web-app

An example might be where the user has requested inverse visual display (e.g. to render white text on a black background) and the device is able to respond to that by reversing the display colours. This does not work well for images so when viewing a web page containing images the browser might wish to fetch images which are themselves inverted so that when the device inverts the colours the images remain viewable. In this case the device has responded but the web app needs to know that. Another device might be unable to respond to a request for inverse colours at all and so the web app in this case might deliver inverse colours with complete alternative content.

In other cases, a device might respond to a requested need by calling a service (such as a service to interpret voice input) and a different device might be unable to respond to that and pass that input directly to the web app.

Whilst currently beyond the scope of this work at this point it should be noted that the same mechanism might provide a general way to request alternative content such as alternative assessment questions (for accessibility) or alternative learning content such as content of an appropriate level of difficulty for that learner.